

C24  
<sup>1</sup>  
~~84~~. (New) An isolated antibody or fragment thereof which specifically binds a polypeptide consisting of amino acids 24 to 238 of SEQ ID NO:2.

<sup>2</sup>  
~~85~~. (New) The antibody or fragment thereof of claim ~~84~~<sup>1</sup>, wherein said polypeptide is glycosylated.

<sup>3</sup>  
~~86~~. (New) The antibody or fragment thereof of claim ~~84~~<sup>1</sup>, which is polyclonal.

<sup>4</sup>  
~~87~~. (New) The antibody or fragment thereof of claim ~~84~~<sup>1</sup> which is selected from the group consisting of

- a) a chimeric antibody;
- b) a Fab fragment; and
- c) a F(ab')<sub>2</sub> fragment.

<sup>5</sup>  
~~88~~. (New) The antibody or fragment thereof of claim ~~84~~<sup>1</sup>, which is labeled.

<sup>6</sup>  
~~89~~. (New) The antibody or fragment thereof of claim ~~88~~<sup>5</sup>, wherein the label is selected from the group consisting of:

- a) an enzyme;
- b) a fluorescent label; and
- c) a radioisotope.

<sup>7</sup>  
~~90~~. (New) The antibody or fragment thereof of claim ~~84~~<sup>1</sup>, which specifically

binds to said polypeptide in a Western blot.

<sup>8</sup>/<sub>91</sub>. (New) The antibody or fragment thereof of claim <sup>1</sup>/<sub>84</sub>, which specifically binds to said polypeptide in an ELISA.

<sup>9</sup>/<sub>92</sub>. (New) The antibody or fragment thereof of claim <sup>1</sup>/<sub>84</sub>, which specifically binds to said polypeptide in a competitive-binding assay.

<sup>10</sup>/<sub>93</sub>. (New) The antibody or fragment thereof of claim <sup>1</sup>/<sub>84</sub>, which specifically binds to said polypeptide in a radioimmunoassay.

<sup>11</sup>/<sub>94</sub>. (New) An isolated cell that produces the antibody or fragment thereof of claim <sup>1</sup>/<sub>84</sub>.

<sup>12</sup>/<sub>95</sub>. (New) A hybridoma that produces the antibody or fragment thereof of claim <sup>1</sup>/<sub>84</sub>.

<sup>1</sup>/<sub>84</sub>.  
[ Sub E ]  
96. (New) A method of detecting a DR4 protein in a biological sample comprising:  
a) contacting the biological sample with the antibody or fragment thereof of claim 84; and  
b) detecting the DR4 protein in the biological sample.

<sup>14</sup>  
~~97~~. (New) A composition comprising the antibody or fragment thereof of claim ~~84~~, and a carrier.

98. (New) The antibody or fragment thereof of claim 84, which is an antagonist of the polypeptide of SEQ ID NO:2.

99. (New) The antibody or fragment thereof of claim 84, which is an agonist of the polypeptide of SEQ ID NO:2.

<sup>15</sup>  
~~100~~. (New) A method of producing the antibody or fragment thereof of claim ~~84~~ comprising:

- a) introducing an immunogenic epitope of a polypeptide consisting of amino acids 1-468 of SEQ ID NO:2 into an animal; and
- b) recovering said antibody or fragment thereof.

<sup>20</sup>  
~~101~~. (New) An isolated monoclonal antibody or fragment thereof which specifically binds a polypeptide consisting of amino acids 24 to 238 of SEQ ID NO:2.

<sup>21</sup>  
~~102~~. (New) The antibody or fragment thereof of claim <sup>20</sup>~~101~~, wherein said polypeptide is glycosylated.

<sup>22</sup>  
~~103~~. (New) The antibody or fragment thereof of claim <sup>20</sup>~~101~~, which is selected from the group consisting of:

- a) a chimeric antibody;
- b) a Fab fragment; and
- c) a F(ab')<sub>2</sub> fragment.

<sup>23</sup>  
~~104~~. (New) The antibody or fragment thereof of claim <sup>20</sup>~~101~~, which is labeled.

<sup>24</sup>  
~~105~~. (New) The antibody or fragment thereof of claim <sup>23</sup>~~104~~, wherein the label is  
selected from the group consisting of:

- a) an enzyme;
- b) a fluorescent label; and
- c) a radioisotope.

<sup>25</sup>  
~~106~~. (New) The antibody or fragment thereof of claim <sup>20</sup>~~101~~, which specifically  
binds to said protein in a Western blot.

<sup>26</sup>  
~~107~~. (New) The antibody or fragment thereof of claim <sup>20</sup>~~101~~, which specifically  
binds to said polypeptide in an ELISA.

<sup>27</sup>  
~~108~~. (New) The antibody or fragment thereof of claim <sup>20</sup>~~101~~, which specifically  
binds to said polypeptide in a competitive-binding assay.

<sup>28</sup>  
~~109~~. (New) The antibody or fragment thereof of claim <sup>20</sup>~~101~~, which specifically  
binds to said polypeptide in a radioimmunoassay.

<sup>29</sup>  
~~110.~~ (New) An isolated cell that produces the antibody or fragment thereof of  
claim ~~101.~~<sup>20</sup>

<sup>30</sup>  
~~111.~~ (New) A hybridoma that produces the antibody or fragment thereof of claim  
~~101.~~<sup>20</sup>

<sup>31</sup>  
~~112.~~ (New) A method of detecting a DR4 protein in a biological sample  
comprising:

- a) contacting the biological sample with the antibody or fragment thereof of  
claim 101; and  
b) detecting the DR4 protein in the biological sample.

<sup>32</sup>  
~~113.~~ (New) A composition comprising the antibody or fragment thereof of claim  
~~101,~~<sup>20</sup> and a carrier.

114. (New) The antibody or fragment thereof of claim 101, which is an antagonist  
of the polypeptide of SEQ ID NO:2.

115. (New) The antibody or fragment thereof of claim 101, which is an agonist  
of the polypeptide of SEQ ID NO:2.

<sup>33</sup>  
~~116.~~ (New) A method of producing the antibody or fragment thereof of claim ~~101~~<sup>20</sup>  
comprising:

- a) introducing an immunogenic epitope of a polypeptide consisting of amino acids 1-468 of SEQ ID NO:2 into an animal; and
- b) recovering said antibody or fragment thereof.

Sub E3

117. (New) ~~An isolated antibody or fragment thereof obtained from an animal that has been immunized with a polypeptide consisting of amino acids 24 to 238 of SEQ ID NO:2.~~

<sup>39</sup>  
~~118.~~ (New) The antibody or fragment thereof of claim <sup>38</sup>~~117~~, wherein said polypeptide is glycosylated.

<sup>40</sup>  
~~119.~~ (New) The antibody or fragment thereof of claim <sup>38</sup>~~117~~, which is polyclonal.

<sup>41</sup>  
~~120.~~ (New) The antibody or fragment thereof of claim <sup>38</sup>~~117~~, which is monoclonal.

<sup>42</sup>  
~~121.~~ (New) The antibody or fragment thereof of claim <sup>38</sup>~~117~~, which is selected from the group consisting of:

- a) a chimeric antibody;
- b) a Fab fragment; and
- c) a F(ab')<sub>2</sub> fragment.

<sup>43</sup>  
~~122.~~ (New) The antibody or fragment thereof of claim <sup>38</sup>~~117~~, which is labeled.

<sup>44</sup>  
~~123~~. (New) The antibody or fragment thereof of claim <sup>43</sup>~~122~~, wherein the label is selected from the group consisting of:

- a) an enzyme;
- b) a fluorescent label; and
- c) a radioisotope.

<sup>45</sup>  
~~124~~. (New) The antibody or fragment thereof of claim <sup>38</sup>~~117~~, which specifically binds to said polypeptide in a Western blot.

<sup>46</sup>  
~~125~~. (New) The antibody or fragment thereof of claim <sup>38</sup>~~117~~, which specifically binds to said polypeptide in an ELISA.

<sup>47</sup>  
~~126~~. (New) The antibody or fragment thereof of claim <sup>38</sup>~~117~~, which specifically binds to said polypeptide in a competitive-binding assay.

<sup>48</sup>  
~~127~~. (New) The antibody or fragment thereof of claim <sup>38</sup>~~117~~, which specifically binds to said polypeptide in a radioimmunoassay.

<sup>49</sup>  
~~128~~. (New) An isolated cell that produces the antibody or fragment thereof of claim <sup>38</sup>~~117~~.

<sup>50</sup>  
~~129~~. (New) A hybridoma that produces the antibody or fragment thereof of claim <sup>38</sup>~~117~~.

Sub E 4

130. (New) A method of detecting a DR4 protein in a biological sample

comprising:

- a) contacting the biological sample with the antibody or fragment thereof of claim 117; and
- b) detecting the DR4 protein in the biological sample.

52  
131. (New) A composition comprising the antibody or fragment thereof of claim 117, and a carrier.

132. (New) The antibody or fragment thereof of claim 117, which is an antagonist of the polypeptide of SEQ ID NO:2.

133. (New) The antibody or fragment thereof of claim 117, which is an agonist of the polypeptide of SEQ ID NO:2.

53  
134. (New) A method of producing the antibody or fragment thereof of claim 117 comprising:

- a) introducing an immunogenic epitope of a polypeptide consisting of amino acids 24-238 of SEQ ID NO:2 into an animal; and
- b) recovering said antibody or fragment thereof.

58  
135. (New) An isolated antibody or fragment thereof that specifically binds a polypeptide as it is naturally expressed on the surface of a cell, said polypeptide comprising



amino acids 24 to 468 of SEQ ID NO:2.

~~59~~  
~~136~~. (New) The antibody or fragment thereof of claim ~~58~~  
~~135~~, wherein said cell  
surface-expressed polypeptide is glycosylated.

~~60~~  
~~137~~. (New) The antibody or fragment thereof of claim ~~58~~  
~~135~~, which is polyclonal.

~~61~~  
~~138~~. (New) The antibody or fragment thereof of claim ~~58~~  
~~135~~, which is monoclonal.

~~62~~  
~~139~~. (New) The antibody or fragment thereof of claim ~~58~~  
~~135~~, which is selected from  
the group consisting of:

- a) a chimeric antibody;
- b) a Fab fragment; and
- c) a F(ab')<sub>2</sub> fragment.

~~63~~  
~~140~~. (New) The antibody or fragment thereof of claim ~~58~~  
~~135~~, which is labeled.

~~64~~  
~~141~~. (New) The antibody or fragment thereof of claim ~~63~~  
~~140~~, wherein the label is  
selected from the group consisting of:

- a) an enzyme;
- b) a fluorescent label; and
- c) a radioisotope.

<sup>65</sup>  
~~142.~~ (New) The antibody or fragment thereof of claim <sup>58</sup>~~135~~, which specifically binds to said polypeptide in a Western blot.

<sup>66</sup>  
~~143.~~ (New) The antibody or fragment thereof of claim <sup>58</sup>~~135~~, which specifically binds to said polypeptide in an ELISA.

<sup>67</sup>  
~~144.~~ (New) The antibody or fragment thereof of claim <sup>58</sup>~~135~~, which specifically binds to said polypeptide in a competitive-binding assay.

<sup>68</sup>  
~~145.~~ (New) The antibody or fragment thereof of claim <sup>58</sup>~~135~~, which specifically binds to said polypeptide in a radioimmunoassay.

<sup>69</sup>  
~~146.~~ (New) An isolated cell that produces the antibody or fragment thereof of claim <sup>58</sup>~~135~~.

<sup>70</sup>  
~~147.~~ (New) A hybridoma that produces the antibody or fragment thereof of claim <sup>58</sup>~~135~~.

<sup>58</sup>  
~~135.~~ <sup>71</sup>  
~~148.~~ (New) A method of detecting a DR4 protein in a biological sample comprising:

- a) contacting the biological sample with the antibody or fragment thereof of claim 135; and
- b) detecting the DR4 protein in the biological sample.

<sup>72</sup>  
~~149~~. (New) A composition comprising the antibody or fragment thereof of claim  
<sup>58</sup>  
~~135~~, and a carrier.

150. (New) The antibody or fragment thereof of claim 135, which is an antagonist  
of the polypeptide of SEQ ID NO:2.

151. (New) The antibody or fragment thereof of claim 135, which is an agonist  
of the polypeptide of SEQ ID NO:2.

<sup>73</sup>  
~~152~~. (New) A method of producing the antibody or fragment thereof of claim ~~135~~<sup>58</sup>  
comprising:

- a) introducing an immunogenic epitope of a polypeptide consisting of  
amino acids 1-468 of SEQ ID NO:2 into an animal; and
- b) recovering said antibody or fragment thereof.

<sup>135</sup>  
~~153~~. (New) An isolated antibody or fragment thereof which specifically binds a  
polypeptide consisting of amino acids 1 to 468 of SEQ ID NO:2, wherein said antibody or  
fragment thereof binds to an antigenic <sup>epitope-bearing polypeptide fragment</sup> ~~epitope~~ comprising at least 9 contiguous amino acids  
of SEQ ID NO:2.

<sup>136</sup>  
~~154~~. (New) The isolated antibody or fragment thereof of claim ~~153~~<sup>135</sup>, wherein said  
antibody or fragment thereof binds to an antigenic <sup>epitope-bearing polypeptide fragment</sup> ~~epitope~~ comprising at least <sup>15</sup>~~15-30~~  
contiguous amino acids of SEQ ID NO:2.

~~155~~<sup>137</sup>

~~153~~<sup>135</sup>

(New) The antibody or fragment thereof of claim ~~153~~<sup>135</sup>, wherein said antibody or fragment thereof specifically binds a polypeptide selected from the group consisting of:

- a) a polypeptide consisting of amino acids 24 to 468 of SEQ ID NO: 2;
- b) a polypeptide consisting of amino acids 24 to 238 of SEQ ID NO: 2;
- c) a polypeptide consisting of amino acids 132 to 221 of SEQ ID NO: 2;
- d) a polypeptide consisting of amino acids 35 to 92 of SEQ ID NO: 2;
- e) a polypeptide consisting of amino acids 114 to 160 of SEQ ID NO: 2;
- f) a polypeptide consisting of amino acids 169 to 240 of SEQ ID NO: 2;
- g) a polypeptide consisting of amino acids 239 to 264 of SEQ ID NO: 2;
- h) a polypeptide consisting of amino acids 265 to 468 of SEQ ID NO: 2;
- i) a polypeptide consisting of amino acids 267 to 298 of SEQ ID NO: 2;
- j) a polypeptide consisting of amino acids 330 to 364 of SEQ ID NO: 2;
- k) a polypeptide consisting of amino acids 391 to 404 of SEQ

ID NO: 2;

- l) a polypeptide consisting of amino acids 418 to 465 of SEQ

ID NO: 2;

- m) a polypeptide consisting of amino acids 379 to 422 of SEQ

ID NO: 2;

n) a polypeptide consisting of a portion of SEQ ID NO:2, wherein said portion comprises the amino acid sequence of at least 30 contiguous amino acids of SEQ ID NO:2; and

o) a polypeptide consisting of a portion of SEQ ID NO:2, wherein said portion comprises the amino acid sequence of at least 50 contiguous amino acids of SEQ ID NO:2.

<sup>138</sup>  
~~156~~. (New) An antibody or fragment thereof obtained from an animal that has been immunized with a polypeptide consisting of amino acids 1 to 468 of SEQ ID NO:2, wherein said antibody or fragment thereof binds to an antigenic <sup>epitope-bearing polypeptide fragment</sup> ~~epitope~~ comprising at least 9 contiguous amino acids of SEQ ID NO:2.

<sup>139</sup>  
~~157~~. (New) The antibody or fragment thereof of claim <sup>138</sup>~~156~~, wherein said antibody or fragment thereof binds to an antigenic <sup>epitope-bearing polypeptide fragment</sup> ~~epitope~~ comprising at least <sup>15</sup>~~15-30~~ contiguous amino acids of SEQ ID NO:2.

<sup>140</sup>  
~~158~~. (New) The antibody or fragment thereof of claim <sup>138</sup>~~156~~, wherein said polypeptide is selected from the group consisting of:

- a) a polypeptide consisting of amino acids 24 to 468 of SEQ ID  
NO: 2;
- b) a polypeptide consisting of amino acids 24 to 238 of SEQ ID  
NO: 2;
- c) a polypeptide consisting of amino acids 132 to 221 of SEQ  
ID NO: 2;
- d) a polypeptide consisting of amino acids 35 to 92 of SEQ ID  
NO: 2;
- e) a polypeptide consisting of amino acids 114 to 160 of SEQ  
ID NO: 2;
- f) a polypeptide consisting of amino acids 169 to 240 of SEQ  
ID NO: 2;
- g) a polypeptide consisting of amino acids 239 to 264 of SEQ  
ID NO: 2;
- h) a polypeptide consisting of amino acids 265 to 468 of SEQ  
ID NO: 2;
- i) a polypeptide consisting of amino acids 267 to 298 of SEQ  
ID NO: 2;
- j) a polypeptide consisting of amino acids 330 to 364 of SEQ  
ID NO: 2;
- k) a polypeptide consisting of amino acids 391 to 404 of SEQ  
ID NO: 2;
- l) a polypeptide consisting of amino acids 418 to 465 of SEQ

ID NO: 2;

- m) a polypeptide consisting of amino acids 379 to 422 of SEQ

ID NO: 2;

n) a polypeptide consisting of a portion of SEQ ID NO:2, wherein said portion comprises the amino acid sequence of at least 30 contiguous amino acids of SEQ ID NO:2; and

o) a polypeptide consisting of a portion of SEQ ID NO:2, wherein said portion comprises the amino acid sequence of at least 50 contiguous amino acids of SEQ ID NO:2.

<sup>74</sup>  
~~159~~. (New) An isolated antibody or fragment thereof which specifically binds the extracellular domain of the polypeptide encoded by the cDNA contained in ATCC Deposit No. 97853.

<sup>75</sup>  
~~160~~. (New) The antibody or fragment thereof of claim <sup>74</sup>~~159~~, wherein said polypeptide is glycosylated.

<sup>77</sup>  
~~161~~. (New) The antibody or fragment thereof of claim <sup>74</sup>~~159~~, which is selected from the group consisting of:

- a) a chimeric antibody;
- b) a Fab fragment; and
- c) a F(ab')<sub>2</sub> fragment.

~~78~~  
~~162.~~ (New) The antibody or fragment thereof of claim ~~159~~<sup>74</sup>, which is labeled.

~~78~~  
~~163.~~ (New) The antibody or fragment thereof of claim ~~162~~<sup>78</sup>, wherein the label is selected from the group consisting of:

- a) an enzyme;
- b) a fluorescent label; and
- c) a radioisotope.

~~80~~  
~~164.~~ (New) The antibody or fragment thereof of claim ~~159~~<sup>74</sup>, which specifically binds to said extracellular domain in a Western blot.

~~81~~  
~~165.~~ (New) The antibody or fragment thereof of claim ~~159~~<sup>74</sup>, which specifically binds to said extracellular domain in an ELISA.

~~82~~  
~~166.~~ (New) The antibody or fragment thereof of claim ~~159~~<sup>74</sup>, which specifically binds to said extracellular domain in a competitive-binding assay.

~~83~~  
~~167.~~ (New) The antibody or fragment thereof of claim ~~159~~<sup>74</sup>, which specifically binds to said extracellular domain in a radioimmunoassay.

~~84~~  
~~168.~~ (New) An isolated cell that produces the antibody or fragment thereof of claim ~~159~~<sup>74</sup>.



<sup>74</sup>  
~~159.~~ <sup>85</sup>  
~~169.~~ (New) A hybridoma that produces the antibody of fragment thereof of claim

<sup>74</sup>  
~~159.~~ <sup>85</sup>  
~~169.~~ (New) A method of detecting a DR4 protein in a biological sample  
comprising:

- a) contacting the biological sample with the antibody or fragment thereof of claim 159; and
- b) detecting the DR4 protein in the biological sample.

<sup>74</sup>  
~~159.~~ <sup>87</sup>  
~~171.~~ (New) A composition comprising the antibody or fragment thereof of claim 159, and a carrier.

172. (New) The antibody or fragment thereof of claim 159, which is an antagonist of the polypeptide encoded by the cDNA contained in ATCC Deposit No. 97853.

173. (New) The isolated antibody fragment of claim 159, which is an agonist of the polypeptide encoded by the cDNA contained in ATCC Deposit No. 97853.

<sup>74</sup>  
~~159.~~ <sup>88</sup>  
~~174.~~ (New) A method of producing the isolated antibody or fragment thereof of claim 159 comprising:

- a) introducing an immunogenic epitope of the polypeptide encoded by the cDNA contained in ATCC Deposit No. 97853 into an animal; and

- b) recovering said antibody <sup>or fragment thereof</sup> fragment.

<sup>89</sup>  
~~175~~. (New) An isolated monoclonal antibody or fragment thereof which specifically binds the extracellular domain of the polypeptide encoded by the cDNA contained in ATCC Deposit No. 97853.

<sup>90</sup>  
~~176~~. (New) The antibody or fragment thereof of claim <sup>89</sup>~~175~~, wherein said polypeptide is glycosylated.

<sup>91</sup>  
~~177~~. (New) The antibody or fragment thereof of claim <sup>89</sup>~~175~~ which is selected from the group consisting of:

- a) a chimeric antibody;
- b) a Fab fragment; and
- c) a F(ab')<sub>2</sub> fragment.

<sup>92</sup>  
~~178~~. (New) The antibody or fragment thereof of claim <sup>89</sup>~~175~~, which is labeled.

<sup>93</sup>  
~~179~~. (New) The antibody or fragment thereof of claim <sup>92</sup>~~178~~, wherein the label is selected from the group consisting of:

- a) an enzyme;
- b) a fluorescent label; and
- c) a radioisotope.

<sup>94</sup>  
180. (New) The antibody or fragment thereof of claim <sup>89</sup>~~175~~, which specifically binds to said polypeptide in a Western blot.

<sup>95</sup>  
181. (New) The antibody or fragment thereof of claim <sup>89</sup>~~175~~, which specifically binds to said polypeptide in an ELISA.

<sup>96</sup>  
182. (New) The antibody or fragment thereof of claim <sup>89</sup>~~175~~, which specifically binds to said polypeptide in a competitive-binding assay.

<sup>97</sup>  
183. (New) The antibody or fragment thereof of claim <sup>89</sup>~~175~~, which specifically binds to said polypeptide in a radioimmunoassay.

<sup>98</sup>  
184. (New) An isolated cell that produces the antibody or fragment thereof of claim <sup>89</sup>~~175~~.

<sup>99</sup>  
185. (New) A hybridoma that produces the antibody or fragment thereof of claim <sup>89</sup>~~175~~.

<sup>100</sup>  
186. (New) A method of detecting a DR4 protein in a biological sample comprising:

- a) contacting the biological sample with the antibody or fragment thereof of claim 175; and
- b) detecting the DR4 protein in the biological sample.

<sup>101</sup>  
~~187~~ (New) A composition comprising the antibody or fragment thereof of claim <sup>89</sup>  
~~175~~, and a carrier.

188. (New) The antibody or fragment thereof of claim 175, which is an antagonist of the polypeptide of encoded by the cDNA contained in ATCC Deposit No. 97853.

189. (New) The antibody or fragment thereof of claim 175, which is an agonist of the polypeptide of encoded by the cDNA contained in ATCC Deposit No. 97853.

<sup>102</sup>  
~~190~~ (New) A method of producing the isolated antibody or fragment thereof of claim <sup>89</sup>  
~~175~~ comprising:

- a) introducing an immunogenic epitope of the polypeptide encoded by the cDNA contained in ATCC Deposit No. 97853 into an animal; and
- b) recovering said antibody <sup>or fragment thereof</sup> ~~fragment~~.

<sup>Sub E8</sup>  
191. (New) An isolated antibody or fragment thereof obtained from an animal that has been immunized with the extracellular domain of the polypeptide encoded by the cDNA contained in ATCC Deposit No. 97853.

<sup>104</sup>  
~~192~~ (New) The antibody or fragment thereof of claim <sup>103</sup>  
~~191~~, wherein said polypeptide is glycosylated.

<sup>105</sup>  
~~193.~~ (New) The antibody or fragment thereof of claim <sup>103</sup>~~191~~, which is polyclonal.

<sup>106</sup>  
~~194.~~ (New) The antibody or fragment thereof of claim <sup>103</sup>~~191~~, which is monoclonal.

<sup>107</sup>  
~~195.~~ (New) The antibody or fragment thereof of claim <sup>103</sup>~~191~~, which is selected from

the group consisting of:

- a) a chimeric antibody;
- b) a Fab fragment; and
- c) a F(ab')<sub>2</sub> fragment.

<sup>108</sup>  
~~196.~~ (New) The antibody or fragment thereof of claim <sup>103</sup>~~191~~, which is labeled.

<sup>109</sup>  
~~197.~~ (New) The antibody or fragment thereof of claim <sup>108</sup>~~196~~, wherein the label is

selected from the group consisting of:

- a) an enzyme;
- b) a fluorescent label; and
- c) a radioisotope.

<sup>110</sup>  
~~198.~~ (New) The antibody or fragment thereof of claim <sup>103</sup>~~191~~, which specifically

binds to said polypeptide in a Western blot.

<sup>111</sup>  
~~199.~~ (New) The antibody or fragment thereof of claim <sup>103</sup>~~191~~, which specifically

binds to said polypeptide in an ELISA.

<sup>112</sup>  
~~200.~~ (New) The antibody or fragment thereof of claim <sup>103</sup>~~191~~, which specifically binds to said polypeptide in a competitive-binding assay.

<sup>113</sup>  
~~201.~~ (New) The antibody or fragment thereof of claim <sup>103</sup>~~191~~, which specifically binds to said polypeptide in a radioimmunoassay.

<sup>114</sup>  
~~202.~~ (New) An isolated cell that produces the antibody or fragment thereof of claim <sup>103</sup>~~191~~.

<sup>115</sup>  
~~203.~~ (New) A hybridoma that produces the antibody or fragment thereof of claim

<sup>103</sup>  
~~191.~~

<sup>Sub E 9</sup>  
204. (New) A method of detecting a DR4 protein in a biological sample comprising:

- a) contacting the biological sample with the antibody or fragment thereof of claim 191; and
- b) detecting the DR4 protein in the biological sample.

<sup>117</sup>  
<sup>103</sup>  
~~205.~~ (New) A composition comprising the antibody or fragment thereof of claim ~~191~~, and a carrier.

206. (New) The antibody or fragment thereof of claim 191, which is an antagonist of the polypeptide encoded by the cDNA contained in ATCC Deposit No. 97853.

207. (New) The antibody or fragment thereof of claim 191, which is an agonist of the polypeptide encoded by the cDNA contained in ATCC Deposit No. 97853.

118  
208. (New) A method of producing the isolated antibody or fragment thereof of claim 191 comprising:

- a) introducing an immunogenic epitope of the polypeptide encoded by the cDNA contained in ATCC Deposit No. 97853 into an animal; and
- b) recovering said antibody <sup>or fragment thereof</sup> fragment.

141  
209. (New) An isolated antibody or fragment thereof which specifically binds the full length polypeptide encoded by the cDNA contained in ATCC Deposit No. 97853, wherein said antibody or fragment thereof binds to an antigenic <sup>epitope-bearing polypeptide fragment</sup> epitope comprising at least 9 contiguous amino acids of said polypeptide.

142  
210. (New) The antibody or fragment thereof of claim 209, wherein said antibody or fragment thereof binds to an antigenic <sup>epitope-bearing polypeptide fragment</sup> epitope comprising at least <sup>15</sup> 15-30 contiguous amino acids of said polypeptide.

143  
211. (New) The antibody or fragment thereof of claim 209, which specifically binds a polypeptide selected from the group consisting of:

- a) a polypeptide consisting of the mature form of the polypeptide encoded by the cDNA contained in ATCC Deposit No. 97853;

- b) a polypeptide consisting of the extracellular domain of the polypeptide encoded by the cDNA contained in ATCC Deposit No. 97853;
- c) a polypeptide comprising the amino acid sequence of at least 30 contiguous amino acids of the polypeptide encoded by the cDNA contained in ATCC Deposit No. 97853; and
- d) a polypeptide comprising the amino acid sequence of at least 50 contiguous amino acids of the polypeptide encoded by the cDNA contained in ATCC Deposit No. 97853.

<sup>144</sup>  
~~212~~. (New) An isolated antibody or fragment thereof obtained from an animal that has been immunized with a polypeptide encoded by the cDNA contained in ATCC Deposit No. 97853, wherein said antibody or fragment thereof binds to an antigenic <sup>epitope-bearing polypeptide fragment</sup> ~~epitope~~ comprising at least 9 contiguous amino acids of said polypeptide.

<sup>145</sup>  
~~213~~. (New) The antibody or fragment thereof of claim <sup>144</sup>~~212~~, wherein said antibody or fragment thereof binds to an antigenic <sup>epitope-bearing polypeptide fragment</sup> ~~epitope~~ comprising at least <sup>15</sup>~~15-30~~ contiguous amino acids of said polypeptide.

<sup>146</sup>  
~~214~~. (New) The isolated antibody or fragment thereof of claim <sup>144</sup>~~212~~, wherein said antibody or fragment thereof specifically binds a polypeptide selected from the group consisting of:

- a) a polypeptide consisting of the mature form of the polypeptide encoded by the cDNA contained in ATCC Deposit No. 97853;



- b) a polypeptide consisting of the extracellular domain of the polypeptide encoded by the cDNA contained in ATCC Deposit No. 97853;
- c) a polypeptide comprising the amino acid sequence of at least 30 contiguous amino acids of the polypeptide encoded by the cDNA contained in ATCC Deposit No. 97853; and
- d) a polypeptide comprising the amino acid sequence of at least 50 contiguous amino acids of the polypeptide encoded by the cDNA contained in ATCC Deposit No. 97853.

<sup>119</sup>  
~~215~~. (New) An isolated antibody or fragment thereof that specifically binds the mature polypeptide encoded by the cDNA contained in ATCC Deposit No. 97853, as it is naturally expressed on the surface of a cell.

<sup>120</sup>  
~~216~~. (New) The antibody or fragment thereof of claim <sup>119</sup>~~215~~, wherein said cell surface-expressed polypeptide is glycosylated.

<sup>121</sup>  
~~217~~. (New) The antibody or fragment thereof of claim <sup>119</sup>~~215~~, which is polyclonal.

<sup>122</sup>  
~~218~~. (New) The antibody or fragment thereof of claim <sup>119</sup>~~215~~, which is monoclonal.

<sup>123</sup>  
~~219~~. (New) The antibody or fragment thereof of claim <sup>119</sup>~~215~~, which is selected from the group consisting of :

- a) a chimeric antibody;

- b) a Fab fragment; and
- c) a F(ab')<sub>2</sub> fragment.

<sup>124</sup>  
~~220.~~ (New) The antibody or fragment thereof of claim <sup>119</sup>~~215~~, which is labeled.

<sup>125</sup>  
~~221.~~ (New) The antibody or fragment thereof of claim <sup>124</sup>~~220~~, wherein the label is selected from the group consisting of:

- a) an enzyme;
- b) a fluorescent label; and
- c) a radioisotope.

<sup>126</sup>  
~~222.~~ (New) The antibody or fragment thereof of claim <sup>119</sup>~~215~~, which specifically binds to said polypeptide in a Western blot.

<sup>127</sup>  
~~223.~~ (New) The antibody or fragment thereof of claim <sup>119</sup>~~215~~, which specifically binds to said polypeptide in an ELISA.

<sup>128</sup>  
~~224.~~ (New) The antibody or fragment thereof of claim <sup>119</sup>~~215~~, which specifically binds to said polypeptide in a competitive-binding assay.

<sup>129</sup>  
~~225.~~ (New) The antibody or fragment thereof of claim <sup>119</sup>~~215~~, wherein said antibody or fragment thereof specifically binds to said protein in a radioimmunoassay.

<sup>130</sup>  
~~226.~~ (New) An isolated cell that produces the antibody or fragment thereof of  
claim ~~215~~.<sup>119</sup>

<sup>131</sup>  
~~227.~~ (New) A hybridoma that produces the antibody or fragment thereof of claim  
~~215~~.<sup>119</sup>

Sub E10

228. (New) A method of detecting a DR4 protein in a biological sample  
comprising:

- a) contacting the biological sample with the antibody or fragment thereof of claim 215; and
- b) detecting the DR4 protein in the biological sample.

<sup>133</sup>  
~~229.~~ (New) A composition comprising the antibody or fragment thereof of claim  
~~215~~, and a carrier.<sup>119</sup>

230. (New) The isolated antibody or fragment thereof of claim 215, wherein said antibody fragment is an antagonist of the polypeptide encoded by the cDNA contained in ATCC Deposit No. 97853.

231. (New) The isolated antibody or fragment thereof of claim 215, wherein said antibody fragment is an agonist of the polypeptide encoded by the cDNA contained in ATCC Deposit No. 97853.

<sup>134</sup>  
~~232.~~

(New) A method of producing the antibody or fragment thereof of claim ~~215~~<sup>116</sup>

comprising:

- a) introducing an immunogenic epitope of the polypeptide encoded by the cDNA contained in ATCC Deposit No. 97853 into an animal;  
and
- b) recovering said antibody or fragment thereof.

<sup>116</sup>  
~~233.~~

(New) The antibody or fragment thereof of claim ~~84~~<sup>116</sup>, which specifically binds

a polypeptide selected from the group consisting of:

- (a) a polypeptide consisting of amino acids 132 to 221 of SEQ ID NO:2;
- (b) a polypeptide consisting of amino acids 35 to 92 of SEQ ID NO:2;
- and
- (c) a polypeptide consisting of amino acids 114 to 160 of SEQ ID NO:2.

Sub D1

- 234. (New) The antibody or fragment thereof of claim 233, that specifically binds protein (a).
- 235. (New) The antibody or fragment thereof of claim 233, that specifically binds protein (b).
- 236. (New) The antibody or fragment thereof of claim 233, that specifically binds protein (c).

D' cond [ 237. (New) The antibody or fragment thereof of claim 234, that specifically binds protein (b).

~~238.~~<sup>34</sup> (New) The antibody or fragment thereof of claim ~~101~~<sup>20</sup>, which specifically binds a polypeptide selected from the group consisting of:

- (a) a polypeptide consisting of amino acids 132 to 221 of SEQ ID NO:2;
- (b) a polypeptide consisting of amino acids 35 to 92 of SEQ ID NO:2;

and

- (c) a polypeptide consisting of amino acids 114 to 160 of SEQ ID NO:2.

sub D2 [ 239. (New) The antibody or fragment thereof of claim 238, that specifically binds protein (a).

240. (New) The antibody or fragment thereof of claim 238, that specifically binds protein (b).

241. (New) The antibody or fragment thereof of claim 238, that specifically binds protein (c).

242. (New) The antibody or fragment thereof of claim 239, that specifically binds protein (b).

~~243.~~<sup>54</sup> (New) The antibody or fragment thereof of claim ~~117~~<sup>38</sup>, which specifically

binds a polypeptide selected from the group consisting of:

- (a) a polypeptide consisting of amino acids 132 to 221 of SEQ ID NO:2;
  - (b) a polypeptide consisting of amino acids 35 to 92 of SEQ ID NO:2;
- and
- (c) a polypeptide consisting of amino acids 114 to 160 of SEQ ID NO:2.

*sub 23*

244. (New) The antibody or fragment thereof of claim 243, that specifically binds protein (a).

245. (New) The antibody or fragment thereof of claim 243, that specifically binds protein (b).

246. (New) The antibody or fragment thereof of claim 243, that specifically binds protein (c).

247. (New) The antibody or fragment thereof of claim 244, that specifically binds protein (b).

*76*  
~~248.~~ (New) The antibody or fragment thereof of claim ~~159~~ *74*, which is polyclonal.